

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
CINGULAR WIRELESS LLC	)	DA 02-558
	)	
Request for Waiver of the Cellular Vertical	)	
Wave Polarization Requirement	)	
	)	
	)	

**ORDER**

**Adopted: March 7, 2002**

**Released: March 8, 2002**

By the Deputy Chief, Commercial Wireless Division, Wireless Telecommunications Bureau:

**I. INTRODUCTION**

1. In this Order, the Commercial Wireless Division of the Wireless Telecommunications Bureau ("Bureau") addresses the request for waiver of the cellular vertical wave polarization requirement filed by Cingular Wireless LLC, with respect to all cellular licensees under its control (collectively, "Cingular").<sup>1</sup> Specifically, Cingular requests waiver of Section 22.367(a)(4) so that it can employ polarization diversity (dual-polarization) antenna arrays. For the reasons stated below, we grant Cingular's waiver request, as limited and conditioned herein.

**II. BACKGROUND**

2. In November 2001, Cingular requested a waiver of the cellular vertical wave polarization requirement, as set forth in Section 22.367(a)(4) of the Commission's rules,<sup>2</sup> to permit the use of non-vertical wave polarization at any transmitter location. Section 22.367(a)(4) requires vertical polarization of the electromagnetic waves radiated by cellular radiotelephone service base, mobile and auxiliary test transmitters. In its Petition for Waiver, Cingular stated that grant of its waiver request would serve the public interest by permitting the use of polarization diversity (dual-polarization) antennas.<sup>3</sup> Cingular stated that, unlike with a spatial diversity antenna array, the antennas of a polarization diversity antenna array need not be spaced apart, thus requiring less physical space and permitting a given tower to accommodate a greater number of antennas.<sup>4</sup> Cingular further stated that the use of dual-polarization at

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<sup>1</sup> Cingular Wireless LLC, Petition for Waiver of Section 22.367 of the Rules Concerning Wave Polarization in the Cellular Radiotelephone Service (filed Nov. 20, 2001) ("Petition for Waiver"); Cingular Wireless LLC, Petition for Waiver of Section 22.367 of the Rules Concerning Wave Polarization in the Cellular Radiotelephone Service, Supplement to Petition for Waiver (filed Jan. 14, 2002) ("Supplement to Petition for Waiver").

<sup>2</sup> 47 C.F.R. § 22.367(a)(4).

<sup>3</sup> Petition for Waiver at 6.

<sup>4</sup> *Id.*

base stations “can reduce the total number of antennas needed at a given site,” thereby resulting in “lower costs, reduced visual impact, reduced tower loading, and minimization of zoning issues.”<sup>5</sup>

3. Cingular further argued that grant of its waiver request would not undermine the purpose of the cellular vertical wave polarization requirement, either by (1) frustrating interoperability with mobile units using vertically-polarized antennas or (2) presenting significant interference with upper UHF-band television channels.<sup>6</sup> With respect to interoperability, Cingular argued that antennas of mobile units are rarely held so that their antennas are vertical; further, Cingular stated that in urban and suburban areas, polarization is not retained due to multipath interference.<sup>7</sup> With respect to interference with broadcast television reception, Cingular stated that “there are very few stations in the upper UHF channels,” and at any rate, that these channels are being cleared of broadcasting incumbents due to reallocation.<sup>8</sup> Cingular further stated that because cellular base stations transmit on frequencies that are distant from the upper UHF channels, even cellular base stations using the same polarization as the television channels are unlikely to cause significant interference.<sup>9</sup> Cingular also stated that, in practice, cellular mobile units “have been operating with essentially random polarization for years without any evidence of interference to television.”<sup>10</sup>

4. On January 14, 2002, Cingular supplemented its Petition for Waiver to provide information regarding its intended upgrade of its TDMA and analog network to third generation wireless data technology.<sup>11</sup> Cingular explained that the timely grant of its waiver request would permit Cingular to implement dual-polarized antennas in conjunction with its upcoming network overlay of General Packet Radio Service (“GPRS”) and Global System for Mobile Telecommunications (“GSM”), and ultimately its upgrade to Enhanced Data Rates for Global Evolution (“EDGE”) technology.<sup>12</sup>

5. On February 1, 2002, the Bureau placed Cingular’s waiver request on public notice.<sup>13</sup> In response, a total of five comments and four reply comments were filed. Of these commenters, six parties supported grant of a waiver.<sup>14</sup> One party, OnStar Corporation (“OnStar”), recommended that Cingular’s

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<sup>5</sup> *Id.* at 4.

<sup>6</sup> *Id.* at 7.

<sup>7</sup> *Id.*

<sup>8</sup> *Id.* at 7-8.

<sup>9</sup> *Id.* at 8.

<sup>10</sup> *Id.*

<sup>11</sup> See Supplement to Petition for Waiver.

<sup>12</sup> *Id.* at 2-3.

<sup>13</sup> See “Wireless Telecommunications Bureau Seeks Comment on Cingular Wireless LLC’s Request for Waiver of the Cellular Vertical Wave Polarization Requirement,” *Public Notice*, DA 02-240 (rel. Feb. 1, 2002).

<sup>14</sup> See Comments of Andrew Corporation; Decibel Products; Allgon Telecom; and CSA Wireless (CSA Wireless filed its comments on February 15, 2002; because initial comments were due February 11, 2002, these comments were late-filed); Reply Comments of AT&T Wireless Services, Inc. (“AT&T Reply Comments”); Reply Comments of Dobson Communications Corporation. Cingular Wireless LLC also filed reply comments supporting its waiver request. AT&T requested that, in addition to granting Cingular’s waiver request, we issue “an immediate waiver of the [cellular vertical wave polarization] rule’s restrictions for all similarly-situated parties.” AT&T Reply Comments at 2. This grant of Cingular’s waiver request, as limited and conditioned herein, pertains to Cingular only and does not extend to “similarly-situated parties.” Cingular has filed documentation supporting its waiver request and has satisfied the requirements of section 1.925 of the Commission’s rules for grant of a waiver; any entity seeking a waiver of the cellular vertical polarization requirement similarly must submit a petition for waiver and satisfy the waiver standard.

waiver request be granted with respect to urban areas, but denied with respect to rural areas.<sup>15</sup> AirCell, Inc. opposed grant of Cingular's waiver request.<sup>16</sup>

### III. DISCUSSION

6. Pursuant to section 1.925 of the Commission's rules, a waiver may be granted if the petitioner establishes either that: (1) the underlying purpose of the rule would not be served or would be frustrated by application to the instant case, and that grant of the waiver would be in the public interest; or (2) in light of unique or unusual factual circumstances, application of the rule would be inequitable, unduly burdensome, or contrary to the public interest, or the applicant has no reasonable alternative.<sup>17</sup> As explained below, we find that a waiver is warranted based upon the totality of the circumstances presented. Specifically, we find that the combination of factors, as explained by Cingular and taken together, present unique factual circumstances and that application of the wave polarization rule would be unduly burdensome and contrary to the public interest. Therefore, by this Order, we grant Cingular a waiver of the cellular vertical wave polarization requirement to permit the use of non-vertical polarization at any of its transmitters, to the extent specified herein. We condition the grant of this waiver upon Cingular's commitment that it shall not reduce or impair analog coverage when operating pursuant to this waiver grant. We reserve the right, as discussed below, to reconsider and/or modify this grant, as necessary, in the event that we receive documented instances of interference with upper-band UHF television stations as a result of operations pursuant to the terms of this grant. We further subject this grant to any future decision in the context of the Commission's biennial review of Part 22 regulations.<sup>18</sup> We limit the scope of this grant to the licenses specified in Appendix A, attached, and limit the term of this grant to be concurrent with the remaining duration of the term of the licenses, subject to automatic renewal in the event that the underlying licenses are renewed.<sup>19</sup>

7. On the facts before us, we believe that grant of this waiver, as limited and conditioned herein, is justified. We believe the unique combination of factors and public interest benefits cited by Cingular, taken together, are sufficient to satisfy the waiver requirements of section 1.925. As explained in Cingular's Supplement to Petition for Waiver, Cingular intends to upgrade its network to EDGE technology; as part of this transition, Cingular will overlay its present TDMA and analog markets with GPRS and GSM, necessitating the "installation of new antennas at each of Cingular's cell sites."<sup>20</sup> Cingular states that "[b]y the end of the fourth quarter of 2002," it "plans to have installation [of new antennas] complete in 21 markets," "affect[ing] over 5,000 cell sites or over 45,000 antennas."<sup>21</sup> Cingular hopes to utilize dual-polarized antennas in conjunction with this network upgrade, claiming that the use of dual-polarized antennas "will serve the public interest by reducing the visual impact of the towers, reducing tower loading, minimizing the need for new tower construction, minimizing zoning issues, and

<sup>15</sup> See Comments of OnStar Corporation ("OnStar Comments").

<sup>16</sup> Reply Comments of AirCell, Inc. ("AirCell Reply Comments").

<sup>17</sup> 47 C.F.R. § 1.925. Alternatively, pursuant to section 1.3, the Commission has authority to waive its rules if there is "good cause" to do so. 47 C.F.R. § 1.3. See also *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164 (D.C. Cir. 1990); *WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969).

<sup>18</sup> Year 2000 Biennial Regulatory Review – Amendment of Part 22 of the Commission's Rules to Modify or Eliminate Outdated Rules Affecting the Cellular Radiotelephone Service and other Commercial Mobile Radio Services, *Notice of Proposed Rulemaking*, WT Docket No. 01-108 (rel. May 17, 2001) ("Part 22 Biennial Review").

<sup>19</sup> Cingular has requested that we extend the waiver to "any licensee that may be under its control now or subsequently." Petition for Waiver at 2. We decline Cingular's request with respect to the scope of this waiver grant; instead, we limit this waiver to only those licenses specified in Appendix A.

<sup>20</sup> Supplement to Petition for Waiver at 1.

<sup>21</sup> *Id.* at 2.

lower the cost of the upgrade.”<sup>22</sup> Cingular states that because dual-polarized antennas do not have to be “physically spaced apart” “a polarization diversity antenna array can be packaged in a single compact radome,” reducing the number of antenna modules required at a given cell site.<sup>23</sup> Cingular notes that, “at a typical cellsite,” it could introduce its network overlay without increasing the number of antennas already used to provide TDMA/analog service.<sup>24</sup> Cingular states that, absent grant of its waiver request, it would “be required to deploy twice the number of antennas and feed lines,” potentially resulting in the need for rezoning or the construction of new towers (where present towers could not handle additional capacity).<sup>25</sup> Cingular notes that rezoning potentially could implicate a delay ranging from three months to one year.<sup>26</sup> We are persuaded that, based upon the totality of the record before us, requiring strict adherence to the vertical wave polarization requirement would be unduly burdensome and contrary to the public interest. In light of the unique combination of factual circumstances presented, we find that the use of dual-polarized antennas, in conjunction with Cingular’s intended GSM/GPRS/EDGE upgrade, will afford public interest benefits by reducing the environmental impact of the network overlay, promoting collocation, expediting new services to the public and reducing the cost of Cingular’s network upgrade.

8. OnStar objected to granting Cingular’s waiver request with respect to rural areas, on the basis that non-vertical antenna polarization could result in reduced RF coverage and impair telematics’ ability to provide geographic location information for emergency services.<sup>27</sup> In its comments, OnStar noted that it utilizes analog cellular to provide location-based telematics service offerings, such as automatic crash notification, through systems embedded in vehicles of certain automobile manufacturers.<sup>28</sup> OnStar expressed concern that grant of Cingular’s waiver request, with respect to rural areas, would “adversely affect[ ] the delivery of automatic crash notification and other emergency and telematics services.”<sup>29</sup> Similarly, AirCell stated that non-vertical polarization may affect cellular performance and may affect certain applications that utilize hard-mounted, vertically polarized antennas.<sup>30</sup> AirCell expressed concern with respect to reduced performance in both rural and urban areas.<sup>31</sup> We note that absent appropriate technical adjustments to account for varying polarization of transmit and receive antennas, grant of Cingular’s waiver request could affect cellular performance at the boundaries of a rural cell site and could result in a reduced coverage area. In its Reply Comments, however, Cingular explicitly states that it “is well aware that in some rural scenarios, the replacement of vertically polarized antennas with dual polarization antennas could result in degradation of coverage, and Cingular has no intention of reducing or impairing its analog coverage if and when it replaces its antennas.”<sup>32</sup> We believe that Cingular’s assurance that it will “ensure that service quality is maintained or improved” adequately addresses concerns that certain areas will suffer diminution in analog service coverage.<sup>33</sup> Cingular’s

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<sup>22</sup> *Id.* at 2.

<sup>23</sup> Petition for Waiver at 6.

<sup>24</sup> Supplement to Petition for Waiver at 2.

<sup>25</sup> *Id.* at 3.

<sup>26</sup> *Id.*

<sup>27</sup> OnStar Comments at 6-7.

<sup>28</sup> *Id.* at 1, 4.

<sup>29</sup> *Id.* at 6.

<sup>30</sup> See AirCell Reply Comments at 3-4.

<sup>31</sup> *Id.* at 4.

<sup>32</sup> Reply Comments of Cingular at 3 (“Cingular Reply Comments”). Cingular also “envision[s] that in very rural areas, where coverage degradations might occur, vertical polarization would be continued.” Petition for Waiver at 6, n.15.

<sup>33</sup> Cingular Reply Comments at 3.

statement that it “does not intend to simply swap one antenna for another” but “will make engineering changes as needed to ensure that service quality and coverage—including to vehicles with vertically polarized antennas—are not impaired”<sup>34</sup> also addresses concerns with respect to cellular performance more generally. We also note that in the majority of the markets where Cingular holds licenses, Cingular is one of two analog cellular carriers; accordingly, customers and service providers are rarely, if ever, dependent upon Cingular for analog service. Furthermore, grant of this limited waiver will not affect all cellular markets, but only a subset of licensed cellular markets, as reflected by Appendix A. In order to ensure that cellular service and coverage degradation does not result from the use of non-vertical polarization, however, we will condition the grant of this waiver request upon Cingular’s adherence to its statements. Accordingly, we will require that Cingular neither reduce nor impair its analog coverage when operating pursuant to the terms of this waiver.

9. We do not believe that grant of the instant waiver, as limited and conditioned herein, will nullify the purposes of the cellular wave polarization requirement. As noted in the context of our biennial regulatory review of Part 22 regulations, the cellular vertical wave polarization requirement was adopted for two reasons: (1) to promote interoperability by accommodating mobile units employing a vertically polarized antenna; and (2) to guard against cellular transmitters’ interference with broadcast television reception on the upper UHF channels.<sup>35</sup> We are persuaded that, on the facts before us, grant of this limited waiver will have little effect on interoperability or UHF television channels. First, as noted in the record, even if a base station’s transmissions are vertically polarized, many hand-held mobile units may not benefit from vertical polarization because they are either held in a manner such that their antenna is not vertical, or because the transmission will experience multipath interference that depolarizes the signal.<sup>36</sup> Accordingly, whether a transmission is vertically polarized likely will provide little interoperability benefit. Furthermore, Cingular states that cellular base stations transmit on frequencies above 869 MHz—a minimum distance of 63 MHz from the closest UHF television frequency—thereby reducing the likelihood of interference with upper-band UHF television channels.<sup>37</sup> In addition, Cingular notes “mobile units, which are located much closer to television, have been operating with essentially random polarization for years without any evidence of interference to television.”<sup>38</sup> Moreover, as stated above, this limited waiver grant will not affect all cellular markets, but only the subset of cellular licenses specified in Appendix A. For these reasons, we are persuaded that waiver of the cellular vertical wave polarization requirement, to the extent described herein, will not result in increased interference to upper-band television. Nevertheless, we reserve the right to reconsider and/or modify this waiver grant, as necessary, in the event that an incumbent upper-UHF band television broadcast licensee provides the Commission with substantiated claims of interference as a result of operations pursuant to the terms of this waiver grant. We note that as part of our biennial review of certain Part 22 regulations, we are considering whether to eliminate the cellular vertical wave polarization requirement and, in the context of this proceeding, have tentatively concluded to “relax this portion of the rule with regard to all cellular stations.”<sup>39</sup> We subject this grant to any future decision in the Commission’s *Part 22 Biennial Review* proceeding.

10. As a final matter, we note that other providers of commercial mobile radio service, such as personal communications service providers, are not subject to the vertical wave polarization

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<sup>34</sup> *Id.* at 6.

<sup>35</sup> *Part 22 Biennial Review* at ¶ 43; Revision of Part 22 of the Commission’s Rules Governing the Public Mobile Services, *Report and Order*, CC Docket No. 92-115, 9 FCC Rcd 6513, 6558 (1994).

<sup>36</sup> See Petition for Waiver at 7; AT&T Reply Comments at 3.

<sup>37</sup> Petition for Waiver at 8.

<sup>38</sup> *Id.*

<sup>39</sup> *Part 22 Biennial Review* at ¶ 47.

requirement. We believe that providing Cingular with the opportunity to deploy dual-polarized antennas, as described herein, will promote regulatory parity and flexibility where Cingular has persuasively shown that it satisfies the waiver standard set forth in section 1.925.

#### IV. ORDERING CLAUSE

11. Accordingly, IT IS ORDERED, pursuant to authority delegated by section 4(i) of the Communications Act, as amended, 47 U.S.C. § 154(i), and by sections 0.331 and 1.925 of the Commission's rules, 47 C.F.R. §§ 0.331, 1.925, that the request for waiver of the cellular vertical polarization requirement filed by Cingular Wireless LLC, on behalf of any licensees under its control, IS HEREBY GRANTED to the extent described herein, with respect to the licensees and licenses listed in Appendix A and subject to the following conditions: (1) the duration of this waiver grant shall be concurrent with the duration of the remaining license terms, subject to automatic renewal in the event that the underlying licenses are renewed; (2) Cingular shall not reduce or impair analog coverage when operating under the terms of this waiver; (3) in the event that we receive documented claims of interference to upper-band UHF television stations, as a result of operations pursuant to the terms of this waiver, we reserve the right to reconsider and/or modify this grant as necessary; and (4) this grant is subject to any future decision in the Commission's *Part 22 Biennial Review* proceeding.

FEDERAL COMMUNICATIONS COMMISSION

Roger Noel  
Deputy Chief, Commercial Wireless Division  
Wireless Telecommunications Bureau

**APPENDIX A****LICENSEE NAME:****CALL SIGN:**

ABILENE SMSA LIMITED PARTNERSHIP  
ACADIANA CELLULAR GENERAL PARTNERSHIP

KNKA559  
KNKN499  
KNKN804

ALABAMA CELLULAR SERVICE, LLC

KNKA262  
KNKA575  
KNKA609  
KNKA621  
KNKA660  
KNKN685  
KNKN761  
KNKN959  
KNKQ276  
KNKQ369

AMARILLO SMSA LIMITED PARTNERSHIP  
AMCELL OF ATLANTIC CITY, LLC  
AMERICAN CELLULAR COMMUNICATIONS LLC

KNKA620  
KNKA791  
KNKA424  
KNKN901  
KNKQ258

AMERICAN CELLULAR NETWORK  
COMPANY, LLC

KNKA311  
KNKA319  
KNKA353  
KNKA382  
KNKN720  
KNKN836

AMERITECH MOBILE COMMUNICATIONS, LLC

KNKA807  
KNKN201  
KNKN508  
KNKN570  
KNKN866

ANNISTON-WESTEL COMPANY, LLC

KNKA461  
KNKN679

ATLANTA-ATHENS MSA LIMITED PARTNERSHIP

KNKA217  
KNKA534  
KNKN873  
KNKN958  
KNKN966  
KNKQ328

AURORA/ELGIN CELLULAR TELEPHONE, LLC  
BCTC OF TEXAS, LLC

KNKA760  
KNKA568  
KNKN336

BELLSOUTH MOBILITY LLC

KNKN822  
KNKN823  
KNKQ269

BELLSOUTH PERSONAL COMMUNICATIONS, LLC

KNKA249  
KNKQ262  
KNKQ286  
KNKQ293

BLOOMINGTON CELLULAR-TELEPHONE – COMPANY	KNKQ305
CCPR OF THE VIRGIN ISLANDS, INC.	KNKA654
CCPR SERVICES, INC.	KNKN523
	KNKA451
	KNKA467
	KNKA627
	KNKA804
	KNKN517
	KNKN521
	KNKN682
	KNKN843
	KNKQ240
	KNKQ343
	KNKQ362
CELL SOUTH OF NEW JERSEY, LLC	KNKA513
CHAMPAIGN CELLTELCO	KNKA478
CHATTANOOGA MSA LIMITED PARTNERSHIP	KNKA289
CINCINNATI SMSA LIMITED PARTNERSHIP	KNKA222
	KNKA285
	KNKA288
	KNKA426
	KNKA445
	KNKN970
	KNKN985
	KNKQ288
	KNKQ295
	KNKQ318
CORPUS CHRISTI SMSA LIMITED PARTNERSHIP	KNKA388
	KNKA542
	KNKA546
	KNKN594
	KNKN727
	KNKN728
DALLAS SMSA LIMITED PARTNERSHIP	KNKA229
	KNKA484
DECATUR CELLULAR TELEPHONE COMPANY, LLC	KNKA742
DECATUR RSA LIMITED PARTNERSHIP	KNKN903
DETROIT SMSA LIMITED PARTNERSHIP	KNKA231
	KNKA362
EASTERN MISSOURI CELLULAR LIMITED PARTNERSHIP	KNKA218
	KNKN391
	KNKN497
	KNKN653
FLORIDA CELLULAR SERVICE, LLC	KNKA225
	KNKA264
	KNKN793
	KNKQ360
	KNKQ361
FLORIDA RSA NO 2B (INDIAN RIVER) LIMITED PARTNERSHIP	KNKN990
GALVESTON CELLULAR TELEPHONE COMPANY	KNKA676



	KNKP971
GEORGIA RSA NO. 1 LIMITED PARTNERSHIP	KNKN697
GEORGIA RSA NO. 2 LIMITED PARTNERSHIP	KNKN950
GEORGIA RSA NO. 3 LIMITED PARTNERSHIP	KNKN765
GTE MOBILNET OF AUSTIN LIMITED PARTNERSHIP	KNKA302
GTE MOBILNET OF TEXAS RSA #11 LIMITED PARTNERSHIP	KNKN538
GTE MOBILNET OF TEXAS RSA #16 LIMITED PARTNERSHIP	KNKN608
HOUMA/THIBODAUX CELLULAR PARTNERSHP	KNKA686
HOUSTON CELLULAR TELEPHONE COMPANY, L.P.	KNKA367
HUNTSVILLE MSA LIMITED PARTNERSHIP	KNKA392
INDIANA 8, LLC	KNKN340
INDIANA CELLULAR LLC	KNKN445
JACKSONVILLE MSA LIMITED PARTNERSHIP	KNKA287
	KNKQ335
JOLIET CELLULAR TELEPHONE, LLC	KNKA625
KANSAS CITY SMSA LIMITED PARTNERSHIP	KNKA223
	KNKA551
KENTUCKY CGSA, LLC	KNKA245
	KNKA394
	KNKN956
	KNKN964
	KNKQ255
	KNKQ391
LAFAYETTE MSA LIMITED PARTNERSHIP	KNKA492
	KNKN500
LOUISIANA CELLULAR HOLDINGS, L.L.C.	KNKA224
	KNKA268
	KNKQ455
LOUISIANA RSA NO. 7 CELLULAR GENERAL PARTNERSHIP	KNKN614
LOUISIANA RSA NO. 8 LIMITED PARTNERSHIP	KNKQ454
LUBBOCK SMSA LIMITED PARTNERSHIP	KNKA421
MADISON SMSA LIMITED PARTNERSHIP	KNKA414
	KNKA498
	KNKN325
MCALLEN-EDINBURG-MISSION SMSA LIMITED PARTNERSHIP	KNKA430
	KNKA444
MCTA	KNKA403
	KNKN878
	KNKN917
	KNKN961
	KNKN980
	KNKQ298
	KNKQ309
	KNKQ368
	KNKQ394
	KNKQ395
MIDLAND-ODESSA SMSA LIMITED PARTNERSHIP	KNKA671
	KNKA674

MILWAUKEE SMSA LIMITED PARTNERSHIP	KNKA214
	KNKA600
	KNKA624
	KNKA727
	KNKN324
MISSOURI RSA 8 LIMITED PARTNERSHIP	KNKN575
MISSOURI RSA 9B1 LIMITED PARTNERSHIP	KNKN907
MISSOURI RSA 11/12 LIMITED PARTNERSHIP	KNKN726
	KNKN825
NEW YORK HOLDINGS, LLC	KNKA210
	KNKA263
	KNKA294
	KNKA317
	KNKA468
	KNKA738
	KNKN827
	KNKN856
NORTHEAST MISSISSIPPI CELLULAR, LLC	KNKQ253
NORTHEASTERN GEORGIA RSA LIMITED PARTNERSHIP	KNKN875
	KNKN983
OKLAHOMA CITY SMSA LIMITED PARTNERSHIP	KNKA296
OKLAHOMA RSA 3 LIMITED PARTNERSHIP	KNKN821
OKLAHOMA RSA 9 LIMITED PARTNERSHIP	KNKN981
ORLANDO SMSA LIMITED PARTNERSHIP	KNKA253
	KNKA406
	KNKA703
	KNKN994
	KNKQ274
ST. JOSEPH SMSA LIMITED PARTNERSHIP	KNKA488
SAN ANTONIO SMSA LIMITED PARTNERSHIP	KNKA279
SAN JUAN CELLULAR TELEPHONE COMPANY	KNKA785
SBMS CELLULAR TELECOMMUNICATIONS BLOOMINGTON, LLC	KNKA792
SBMS CELLULAR TELECOMMUNICATIONS SPRINGFIELD, LLC	KNKA747
SNET MOBILITY, LLC	KNKA239
	KNKA241
	KNKA252
	KNKA256
	KNKA292
	KNKA345
	KNKA418
	KNKA666
	KNKN589
	KNKN759
	KNKN769
	KNKN849
SOUTHWESTERN BELL MOBILE SYSTEMS, LLC	KNKA226
	KNKA254
	KNKA320

	KNKN328
	KNKN468
	KNKN479
	KNKN635
	KNKN705
SOUTHWESTERN BELL WIRELESS, LLC	KNKA476
	KNKA479
	KNKA776
	KNKN496
	KNKP970
	KNKQ315
TEXAS RSA 6 LIMITED PARTNERSHIP	
SOUTHWESTERN BELL WIRELESS, INC.	KNKN369
TEXAS RSA 7B1 LIMITED PARTNERSHIP	KNKN730
TEXAS RSA 9B1 LIMITED PARTNERSHIP	KNKN905
TEXAS RSA 9B4 LIMITED PARTNERSHIP	KNKN906
TEXAS RSA 10B1 LIMITED PARTNERSHIP	KNKN886
TEXAS RSA 10B3 LIMITED PARTNERSHIP	KNKN888
TEXAS RSA 18 LIMITED PARTNERSHIP	KNKN696
TEXAS RSA 19 LIMITED PARTNERSHIP	KNKN576
TEXAS RSA 20B1 LIMITED PARTNERSHIP	KNKN945
TOPEKA SMSA LIMITED PARTNERSHIP	KNKA442
USVI CELLULAR TELEPHONE CORPORATION	KNKN524
VINELAND CELLULAR TELEPHONE COMPANY, LLC	KNKA652
WASHINGTON/BALTIMORE CELLULAR LIMITED PARTNERSHIP	KNKA242
	KNKA243
	KNKN567
	KNKN634
	KNKN662
	KNKN838
WESTEL-INDIANAPOLIS LLC	KNKA208
	KNKA558
	KNKA661
	KNKA762
	KNKA806
	KNKN307
WESTEL-MILWAUKEE COMPANY, LLC	KNKA277
	KNKA517
	KNKA576
	KNKA672
	KNKN449
	KNKN600
	KNKN673
	KNKN674
	KNKN748
	KNKN830
	KNKN841
	KNKN861
	KNKN946
	KNKN947

WICHITA SMSA LIMITED PARTNERSHIP  
WORCESTER TELEPHONE COMPANY

KNKN963  
KNKQ261  
KNKA255  
KNKA359